Chapter 6. Service Utilization in Private HMOs and Non-HMOs: The Impact of Capitated Services

Introduction

The analysis of capitated services delivered by HMOs has been a major MHCC objective. This year the Commission expanded its research agenda to include the analysis of capitated encounters.[1] Use of capitation has been a source of considerable debate within the practitioner community, among consumers, and in the Maryland Legislature. Capitation incorporates different incentives than traditional fee-for-service (FFS) payments. Its advocates argue that these incentives lead to better care management and more efficient use of resources. Opponents contend that capitation provides powerful incentives to provide less care. This chapter provides the first glimpse at the use of capitated services among Maryland HMOs. It discusses the range and volume of capitated services in the Medical Care Data Base (MCDB) and examines the following specific questions that have surfaced during the debate:

- Does the use of capitated services differ by age group?
- What types of services are capitated?
- Are some specialties more likely to deliver capitated services?

The chapter is organized into an overview section followed by a section that addresses the specific questions listed above. A summary and conclusion completes the chapter. For readers that are unfamiliar with capitation, please see the text box below.

What is Capitation?

In a capitation arrangement, an insurance company or managed care plan contracts with a provider who agrees to provide, upon demand, a set of predefined services to the plan's enrollees in exchange for a fixed and guaranteed monthly payment for each enrollee assigned to the provider. This monthly "per capita" payment is called capitation. From the point of view of the provider, such capitation agreements can enhance the size and stability of revenues by generating a guaranteed monthly cash flow. Capitation arrangements may also reduce potential labor costs to the practice, since reporting and claims filing requirements are less than for fee-for-service (FFS) arrangements. Capitation or sub-capitation arrangements can be attractive to the insurance company or the managed care organization for at least two reasons. Capitation allows financial risk to be shared between the HMO and the provider. In addition, HMOs may find it cheaper to outsource the provision of certain services, in terms of clinical expertise and capital equipment and facilities, rather than provide them within the HMO. Capitation has been used in the provision of routine, low-tech services provided by primary care physicians; to provide relatively uncommon but very technical services (such as retinal treatments); and for certain types of ancillary services such as laboratory, radiology, or substance abuse treatment.

[1] In Chapter 2, which included payment comparisons, analyses were limited to services reimbursed on a FFS basis. Services reimbursed through capitation payment arrangements were excluded because there is currently no way to determine the average per-service reimbursement for these services.

Payers Providing Capitated Encounter Data

Private payers are required to provide data on all FFS encounters and on specialty care capitated encounters. In addition, some payers were able to also provide information on primary care capitated services. About 3.3 million capitated service records in the 1998 MCDB were available for analysis, compared to 4.8 million private HMO FFS records, 15.1 million private non-HMO records, and 15.2 million Medicare non-HMO records.

Seven payers account for nearly all capitated services. As shown in Table 24 Freestate Health Plan, an HMO owned by Carefirst BCBS of Maryland, Inc., provides almost two-thirds of the capitated services available for analysis. The two MAMSI HMOs known as Optimum Choice and MD-Individual Practice Association, Inc. account for another 21 percent of capitated services.

TABLE 24
NUMBER AND PERCENT DISTRIBUTION
OF CAPITATED SERVICE DATA BY HEALTH PLAN - 1998

HEALTH PLAN	Number of Services	Distribution of Services
Carefirst-BCBS of MD, Inc.	2,042,890	62.1%
Optimum Choice, Inc.	474,035	14.4%
Kaiser Foundation Health Plan of the Mid-Atlantic States, Inc.	273,495	8.3%
MD-Individual Practice Association, Inc. (MD-IPA)	235,252	7.2%
Prudential Healthcare Plan, Inc.	175,691	5.3%
United Healthcare of the Mid-Atlantic, Inc.	63,729	1.9%
George Washington University Health Plan, Inc.	24,761	0.8%
TOTAL	**3,289,853**	**100.0%**

Services Capitated by HMOs

This section addresses the types of services capitated by HMOs, the recipients of these services, and which specialties deliver them. To find these answers, MHCC first examined the characteristics of capitated services and then compared them to HMO FFS services. The comparisons include the average number and distribution of services and work Relative Value Units (RVUs) by age, type of service, and specialty.[2] Analysis of both private HMO and Medicare HMO data is presented. It should be noted that the HMO enrollees who received FFS services and the HMO recipients who received capitated services are not necessarily the same patient populations. This may be for two

[2] See Chapter 2 for a definition of RVUs.

reasons. First, some HMOs submitted no data on capitated encounters.[3] Second, some recipients covered by HMOs that submitted capitated data received either no FFS services or no capitated specialty services. Only about 19 percent of all private and Medicare HMO recipients in the MCDB received both capitated and FFS services, 35 percent received only capitated services, and 46 percent received only FFS.

Distribution of Capitated Services by Age

Table 25 documents the numbers of capitated services and work RVUs received by members of private HMOs and Medicare HMOs. Within private HMOs, infants (8.3) have the highest average number of capitated services per recipient. The number falls by nearly one-half for younger children ages 1-9, and declines further to 4.1 per recipient for older children ages 10 to 17, the lowest of any age group. Use of capitated services increases steadily through the young adult and middle age years so that adults age 45 and older exceed the 5.3 average number of capitated services per recipient.

TABLE 25

MEAN NUMBER OF HMO CAPITATED AND FFS SERVICES AND WORK RVUs PER RECIPIENT BY AGE GROUP AND PAYER - 1998

Age Group	HMO CAPITATED			HMO FFS✶		
	Mean Number of Services	Mean Work RVUs	Mean Work-RVU per Service	Mean Number of Services	Mean Work RVUs	Mean Work-RVU per Service
	PRIVATE HMOs					
< 1	8.3	4.85	0.58	10.8	9.96	0.92
1- 9	4.6	2.53	0.55	5.8	3.91	0.67
10-17	4.1	2.62	0.64	5.3	4.42	0.83
18-34	4.8	3.46	0.72	6.6	7.28	1.10
35-44	5.2	3.23	0.62	8.2	8.29	1.01
45-54	6.1	3.72	0.61	10.2	9.83	0.96
55-64	7.3	4.60	0.63	12.8	12.90	1.01
Total	**5.3**	**3.38**	**0.64**	**7.9**	**7.61**	**0.96**
	MEDICARE HMOs					
65-74	7.3	5.25	0.72	13.9	14.44	1.04
75-110	7.6	5.84	0.77	15.8	16.22	1.03
Total	**7.4**	**5.46**	**0.74**	**14.6**	**15.04**	**1.03**

✶HMO FFS figures taken from Table 6, Chapter 2.

[3] Aetna U.S. Healthcare, Inc., CIGNA HealthCare Mid-Atlantic, Inc., NYLCare Health Plans of the Mid-Atlantic, Inc., Preferred Health Network, and Principal Health Care of Delaware, Inc. did not submit any capitated encounters in 1998. As reported to the Maryland Insurance Administration, these HMOs accounted for approximately 23 percent of total HMO enrollment for this reporting period.

The average numbers for work RVUs show a pattern similar to the number of services with two differences. Work RVUs for capitated services are highest for infants (4.85), fall by nearly one-half for younger children to 2.53 (the lowest of any age group), and then increase 4 percent among older children, unlike the number of services which was lowest in this age group. As in services, work RVUs tend to increase with age in adults, however, young adults exhibit a relative spike in the average number of work RVUs that is almost one-third higher than older children and 7 percent above the work RVUs for adults ages 35-44.

The increase in work RVUs (relative to pattern for services) in young adults and, to a lesser extent in older children, reflect average service intensities – as measured by mean number of work RVUs per service – that are higher than those of the other age groups. As shown in Table 25, the average work RVU per service for young adults is 0.72, the highest of any age group, which can be explained by the receipt of pregnancy-related services for women in the prime child-bearing years. MHCC found that a significant number of childbirth procedures were reimbursed through capitated payment. Older children have the next highest average work RVU per recipient at 0.64, which may result from accident-related health care.[4] The lowest average service intensity occurs in young children and implies capitated services that are, on average, more routine and low-tech in nature.

Within Medicare HMOs, the numbers for capitated services per recipient are similar in the two age groups, with the older age group averaging just 4 percent more services, 7.6 per recipient. The difference in work RVUs between the two age groups is greater. Older recipients average 11 percent more work RVUs, reflecting a greater service intensity in the capitated services received by older recipients who tend to have more serious health problems. The mean number of work RVUs per service for those age 75 and older is 0.77 compared to 0.72 for those ages 65-74. The service intensities of capitated services for both Medicare age categories were equal to or higher than the average capitated service intensity for adults ages 18-34.

Table 25 also presents, for comparison, the mean numbers of services and work RVUs received within HMO FFS settings that were originally presented in Table 6 (Chapter 2). For every age group within both private HMOs and Medicare HMOs, the number of services and the mean work RVUs per recipient received under HMO FFS arrangements are higher than the numbers of services and work RVUs received under capitated arrangements. Within private HMOs, the overall number of services received under HMO FFS arrangements is nearly 50 percent higher than under capitated arrangements (7.9 vs. 5.3), and the number of work RVUs is 125 percent higher (7.61 vs. 3.38). The pattern of larger numbers of services and work RVUs provided under FFS arrangements relative to capitation increases with age (excluding infants), expanding from 26 percent more services and 55 percent more work RVUs in young children to 75 percent and 180 percent, respectively, in those ages 55-64.

[4] While accidents and adverse effects are the most common cause of death among all children, the rate of accident-related deaths is much higher among teens than in younger children.

The relationship between increasing FFS services and aging continues in the elderly members of Medicare HMOs, whose average number of services per recipient in FFS settings is nearly double the number received under capitation (14.6 vs. 7.4). This difference is more pronounced for persons age 75 or older than for those 65-74. The delivery of work RVUs under FFS to the Medicare HMO population is 175 percent greater than under capitation, about equivalent to the gap for the privately insured ages 55-64.

The mean number of RVUs increases with age under HMO capitation and FFS; however, the increases are significantly higher under HMO-FFS. Higher use of HMO services may be the result of the need for more specialty care, which is typically reimbursed using FFS rather than capitation. This conclusion is consistent with the cumulative effects of serious or chronic medical conditions associated with advancing age requiring progressively more specialty care. Older HMO patients increasingly rely on specialists, who are more likely to be reimbursed on a FFS basis. The Commission will test this assumption in future analyses that will examine utilization at the patient level to see how the capitated and FFS services differ for patients who receive both types of services.

Although older patients use more HMO FFS services, Table 26 reveals that recipients of capitated services tend to be older than those obtaining care through FFS. Within private HMOs, infants and children together account for 26.7 percent of capitated recipients, younger adults ages 18-44, 43.8 percent, and adults ages 45- 64, 29.5 percent. Compared to the age distribution of the recipients of HMO FFS services (29.7, 44.8, and 25.5 percent, respectively) the recipients of capitated services are more likely to be ages 45-64 and less likely to be infants, young children, or adults ages 18-34. Within Medicare HMOs, recipients of capitated services also tend to be older than HMO beneficiaries who obtain FFS services. Recipients age 75 and older comprise 35.5 percent of capitated services compared to 33.7 percent of the FFS recipients. The cause for these distributions is unclear and will require further investigation by the Commission.

Comparing the age distribution of capitated service recipients with the distributions of capitated services and RVUs by age illustrates the impact that the average number of services and work RVUs has on the respective distributions (see Table 26). For example, infants account for 1.1 percent of recipients, 1.7 percent of services, and 1.5 percent of work RVUs. Infant shares of services and work RVUs are about 1.5 and 1.4 times larger, respectively, than their patient percentage because infants' mean service use and work RVUs are well above the average for capitated services in private HMOs. Similarly, the 55-64 age group accounts for 11.4 percent of recipients, 15.6 percent of services, and 15.5 percent of RVUs. This group's share of services and resources is about 1.35 times larger than their population share would indicate.

TABLE 26
PERCENT DISTRIBUTION OF HMO CAPITATED AND FFS SERVICES AND WORK RVUs BY AGE GROUP AND PAYER - 1998

Age Group	HMO CAPITATED			HMO FFS*		
	Distribution Of Services	Distribution of Work RVUs	Distribution of Recipients	Distribution of Services	Distribution of Work RVUs	Distribution of Recipients
			PRIVATE HMOs			
< 1	1.7	1.5	1.1	2.8	2.7	2.1
1-9	12.4	10.7	14.3	12.0	8.3	16.2
10-17	8.8	8.8	11.3	7.7	6.6	11.4
18-34	21.3	24.3	23.7	20.4	23.4	24.4
35-44	19.5	19.2	20.1	21.1	22.2	20.4
45-54	20.7	20.0	18.1	20.8	20.8	16.1
55-64	15.6	15.5	11.4	15.2	15.9	9.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			MEDICARE HMOs			
65-74	63.7	62.0	64.5	63.4	63.7	66.3
75-110	36.3	38.0	35.5	36.6	36.3	33.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* HMO FFS figures are taken from Table 6, Chapter 2.

The larger the difference between an age group's average service or RVU utilization and the overall average (Table 25), the bigger the difference in the distribution percentages illustrated in Table 26. These differences are greatest for infants, but higher-than-average service and RVU use is also found in adults ages 55-64 and to a lesser extent, ages 45-54; consequently, service and work RVU percentages exceed the recipient percentages for these age groups. Age groups with below-average service and/or RVU use have shares of services and/or work RVUs below their recipient percentages. Age groups that receive fewer services or RVUs than their population share would include all children (services and RVUs) and adults 18-34 (services). Within Medicare, those recipients 75 to 110 years of age account for slightly larger proportions of services (36.3 percent) and work RVUs (38.0 percent) than they do of recipients (35.5 percent). This discrepancy is a result of service and work RVU utilization rates that exceed those of the elderly ages 65-74.

The easiest way to compare the distributions of capitated vs. FFS care within private HMOs is to use the percentages in Table 26 to construct a ratio of the service (or RVU) distribution percentage to the age distribution percentage for each age group. A ratio **greater than 1** indicates that the age group's share of total services (or RVUs) exceeds its expected share of services (or RVUs) based on its relative number of patients. Ratios **less than 1** indicate relative "shortfalls" – instances when the share of services or RVUs is less than would be expected based on the group's relative numbers. These ratios

are presented in Table 27. The pattern observed in Table 26 of infants receiving proportionately more services than their share of patients is clearly documented in Table 27. A ratio value of 1.5 means infants' share of services is 1.5 times – 50 percent greater than – their patient share. Similarly, the ratios smaller than 1 for older children reflect the "shortfalls" noted above, with the addition that their shares of services and work RVUs are 0.8 times or 20 percent smaller than their patient share.

The ratios in Table 27 indicate that while both capitated and billed services show that infants and adults age 45 and older receive proportionately more services and work RVUs (relative to their shares of patients) than other age groups, FFS services are more concentrated in adults than are capitated services. Adults ages 45-54 receive shares of services and work RVUs that are 1.3 times their patient share, compared to just 1.1 times in capitated services. The difference is even greater for adults 55-64, whose shares of billed services and work RVUs are 1.6 and 1.7 times their patient share, respectively, compared to a 1.4 ratio for capitated services. The larger shares received by middle-aged and older adults are balanced by smaller shares for infants and children of FFS services and work RVUs compared to their shares under capitation.

TABLE 27
SERVICE AND WORK RVU DISTRIBUTIONS BY AGE GROUP
FOR CAPITATED AND FFS IN PRIVATE HMOs - 1998

Age Group	HMO CAPITATED		HMO FFS	
	Ratio of Services by Age Group	Ratio of Work RVUs by Age Group	Ratio of Services by Age Group	Ratio of Work RVUs by Age Group
< 1	1.5	1.4	1.3	1.3
1-9	0.9	0.7	0.7	0.5
10-17	0.8	0.8	0.7	0.6
18-34	0.9	1.0	0.8	1.0
35-44	1.0	1.0	1.0	1.1
45-54	1.1	1.1	1.3	1.3
55-64	1.4	1.4	1.6	1.7
Total	**1.0**	**1.0**	**1.0**	**1.0**

The higher concentration of services and RVUs in adults ages 45-64 under FFS-based reimbursement results from very high utilization of practitioner services, not from reduced levels of service use by children under FFS reimbursement arrangements (see Table 25). Taken together, Tables 25 and 27 make it clear that adults ages 45-64 who access HMO services under FFS arrangements use significantly more services than children and younger adults compared to their counterparts in the capitated service system. Adults likely receive more care through the FFS system because of a greater need for specialty services. Other possible explanations relate to differences in health

status of the capitated and FFS recipients. The Commission will need to conduct additional analyses to determine the underlying cause.

Distribution of Capitated Services by Type of Service

Data on mean total services and mean total work RVUs per recipient by major BETOS category are provided for the HMO population in Table 28. On average, HMO enrollees who receive practitioner services use 5.3 capitated services per year with a total of 3.38 work RVUs. On average, 2.3 of these services, and 1.99 of the RVUs, are for Evaluation & Management (E&M) services. Recipients receive about 1.8 tests and 0.5 procedures per year. However, procedures are associated with more work RVUs (0.57) than tests (0.46) despite accounting for far fewer services. Childhood immunizations, other services, and unclassified services together account for about the same small number of services and work RVUs as do imaging services alone. The average service intensity, represented in Table 28 as mean work RVU per service, ranges from 1.14 for procedures and 0.87 for E&M to a low of 0.26 for tests.

TABLE 28
MEAN NUMBER OF HMO CAPITATED AND FFS SERVICES INCLUDING WORK RVUs PER RECIPIENT BY SERVICE CATEGORY AND PAYER - 1998

PRIVATE HMO

Major BETOS Category*	HMO CAPITATED			HMO FFS**		
	Mean Number of Services	Mean Work RVUs	Mean Work-RVU per Service	Mean Number of Services	Mean Work RVUs	Mean Work-RVU per Service
Total	**5.3**	**3.38**	**0.64**	**7.8**	**7.63**	**0.98**
E&M	2.3	1.99	0.87	3.3	3.56	1.08
Procedures	0.5	0.57	1.14	1.5	2.89	1.93
Imaging	0.3	0.19	0.63	0.8	0.43	0.54
Tests	1.8	0.46	0.26	1.8	0.44	0.24
Other	0.1	0.08	0.80	0.2	0.20	1.00
Unclassified	0.1	0.05	0.50	0.0	0.01	-
Childhood Immunizations	0.1	0.04	0.40	0.3	0.09	0.30

* Berenson–Eggers Type of Service (BETOS) CPT-4/HCPCS procedure code system, Health Care Financing Administration.

** Numbers are taken from Table 27 (work RVUs) and unpublished tabulations.

TABLE 28 (continued)
MEAN NUMBER OF HMO CAPITATED AND FFS SERVICES INCLUDING WORK RVUs PER RECIPIENT BY SERVICE CATEGORY AND PAYER - 1998

MEDICARE HMO

Major BETOS Category*	HMO CAPITATED			HMO FFS**		
	Mean Number of Services	Mean Work RVUs	Mean Work-RVU per Service	Mean Number of Services	Mean Work RVUs	Mean Work-RVU per Service
Total	**7.4**	**5.46**	**0.74**	**14.5**	**15.07**	**1.04**
E&M	3.1	2.79	0.90	5.5	6.32	1.15
Procedures	1.1	1.49	1.35	2.3	5.69	2.47
Imaging	0.7	0.35	0.50	2.0	1.10	0.55
Tests	2.0	0.42	0.21	3.7	0.81	0.22
Other	0.3	0.35	1.17	0.9	1.13	1.26
Unclassified	0.1	0.07	0.70	0.1	0.01	0.10
Childhood Immunizations	0.0	0.0	-	0.0	0.00	-

* Berenson–Eggers Type of Service (BETOS) CPT-4/HCPCS procedure code system, Health Care Financing Administration.
** Numbers are taken from unpublished tabulations.

Compared to their privately insured counterparts, the Medicare population uses more capitated services and work RVUs per recipient in every BETOS service category, excluding childhood immunizations and work RVUs for tests. On average, Medicare beneficiaries receive 7.4 services and 5.46 work RVUs, as shown in Table 28. As with the privately insured, the number of services for E&M equals services for tests and procedures combined, but the gap between the work RVUs for these latter categories is much larger than in private HMO recipients with procedures accounting for 1.49 work RVUs compared to 0.42 for tests. The reason is related to differences in service intensity; the mean RVU per service for procedures is 1.35 times greater than the service intensity for private recipients. The service intensity for tests, however, is below the corresponding value for private recipients (0.26). Compared to service intensities of capitated services in the private population, values for Medicare recipients are similar for E&M, lower for imaging services and tests, and higher for procedures and the other services category.

In comparing numbers of services and work RVUs per recipient between capitated and FFS arrangements, average numbers of services and work RVUs are usually higher in the HMO FFS setting regardless of service category. A notable exception is tests under private HMOs. Increased service use per private HMO FFS recipient ranges from about 43 percent more E&M services to about 200 percent more procedures than for capitated recipients. These gaps tend to be even greater for mean

work RVUs, e.g., about 79 percent more E&M-related work RVUs and 407 percent more procedure-related work RVUs per recipient in private HMO FFS. Exceptions to this pattern are childhood immunizations and imaging services in private HMOs. The differences in utilization for capitation vs. FFS are more pronounced in Medicare HMOs than in private HMOs for every service category except procedures. Although, as cited earlier, average service intensity is higher in HMO FFS, this is not true of all service categories. The exceptions are childhood immunizations, imaging and tests in private HMOs, and other and unclassified services in Medicare HMOs.

Distributions of capitated services and of work RVUs by major BETOS category are presented in Table 29 for both private HMO and Medicare HMO recipients. Within private HMOs, E&M services form the largest category of capitated services, accounting for 43.2 percent of total services and 58.8 percent of total work RVUs. Office visits, which constitute about 72 percent of E&M services and 55 percent of E&M-related work RVUs, are the most common capitated E&M service, followed by visits with specialists, such as psychiatrists and consultations (23 percent of E&M services, 22 percent of E&M work RVUs).

Within private HMOs, procedures are highest in service intensity among all capitated services (Table 29) and account for 9.8 percent of services and 16.7 percent of work RVUs. Minor procedures, which form about 74 percent of capitated procedures, account for just 32 percent of procedure-related work RVUs. A broad category of major procedures that includes pregnancy related services account for 20 percent of procedure-related RVUs. Surprisingly, a significant number of childbirths are reimbursed using capitation. Other procedures which account for significant shares of procedure-related work RVUs are endoscopies (15 percent) and a broad range of ambulatory procedures (14 percent) although they are far less common, comprising just 6 and 8 percent of procedure-related services, respectively.

Tests account for 34.9 percent of all private capitated services, but only 13.7 percent of all private capitated work RVUs due to their low service intensity. Almost all of these tests are for laboratory tests, with 91 percent of the services and 87 percent of the work RVUs for this BETOS category. Among imaging services, which account for 6.4 percent of private capitated services and 5.5 percent of capitated work RVUs, standard tests are two-thirds of the imaging-related services, followed by echographies (25 percent) and MRIs and CAT scans (8 percent). Together the remaining categories – childhood immunizations, other services, and unclassified services – comprise 5.8 percent of private capitated services and 5.3 percent of capitated work RVUs.

TABLE 29
PERCENT DISTRIBUTION OF HMO CAPITATED AND FFS SERVICES AND WORK RVUs BY SERVICE CATEGORY AND PAYER - 1998

PRIVATE HMO

BETOS Category*	HMO CAPITATED		HMO FFS**	
	Percent of Services	Percent of Work RVUs	Percent of Services	Percent of Work RVUs
Total E&M	43.2%	58.8%	41.7%	46.6%
Total Procedures	9.8	16.7	19.6	37.9
Total Imaging	6.4	5.5	10.0	5.7
Total Tests	34.9	13.7	22.8	5.7
Total Childhood Immunizations	1.7	1.2	3.4	1.2
Total Exceptions/Unclassified	2.3	1.6	0.5	0.1
Total Other	1.8	2.5	2.2	2.7
Total	**100.0**	**100.0**	**100.0**	**100.0**

MEDICARE HMO

BETOS Category*	HMO CAPITATED		HMO FFS**	
	Percent Of Services	Percent of Work RVUs	Percent of Services	Percent of Work RVUs
Total E&M	42.1%	51.0%	37.7%	41.9%
Total Procedures	15.4	27.2	15.7	37.7
Total Imaging	9.0	6.4	13.8	7.3
Total Tests	27.2	7.7	25.6	5.4
Total Childhood Immunizations	0.0	0.0	0.1	0.0
Total Exceptions/Unclassified	0.0	0.0	0.5	0.1
Total Other	4.3	6.4	6.5	7.5
Total	**100.0**	**100.0**	**100.0**	**100.0**

* Berenson–Eggers Type of Service (BETOS) CPT-4/HCPCS procedure code system, Health Care Financing Administration.

** HMO FFS percentages are taken from Table 13.

When compared to the service and work RVU distributions for private HMO FFS services, private capitated services differ in several ways. Private capitated services are more concentrated in tests and to a lesser extent E&M, while procedures, imaging services, and childhood immunizations are less common in HMO FFS services. The concentration of capitated services in tests and E&M and the reduced likelihood of procedures (relative to HMO FFS) are more exaggerated when the measure is work RVUs. However, the percentages of work RVUs attributed to childhood immunizations and imaging services are nearly identical for capitated and FFS services in spite of their relatively lower shares of services under capitation. This is because the mean RVU per service for these categories is higher in capitation than in FFS.

Interesting differences exist between capitated and FFS services within the service categories. Compared to capitated E&M, FFS E&M services are less likely to be office visits (59 percent) and more than twice as likely to be emergency room (ER) and hospital visits. FFS procedures are less likely to be minor in nature and more likely to be for pregnancy, cardiac procedures and endoscopies, by factors of 2.0, 1.5, and 1.25 times greater, respectively. The greater likelihood of specialized services in HMO FFS compared to capitated service categories is also present in tests and imaging services. Tests in HMO FFS are more than twice as likely to be non-lab tests, and imaging services in HMO FFS are less likely to be standard tests, with MRIs and CAT scans about 41 percent more likely as an imaging service than under capitation.

For capitated Medicare services, the distribution of detailed BETOS subcategories is similar to that found in capitated private services, with greater concentration of services on procedures and imaging and less on tests. Comparing capitated services with billed services, those provided to Medicare HMO enrollees under capitation are more likely to be E&M services and less likely to be imaging services than under FFS arrangements. The proportions of procedure services are similar, but the concentration of work RVUs in procedures is much higher in the FFS arrangements because FFS procedures are more service-intensive than procedures provided under capitation (Table 28). Tests, which are slightly more common under capitation than under FFS, constitute a higher share of work RVUs under capitation because the service intensity for capitated tests is nearly twice that of FFS tests.

Comparisons of Medicare services within the major BETOS categories reveal that, as in private HMOs, office visits are common under capitation, while ER and hospital visits are more likely under FFS. Also like private HMOs, FFS procedures are less likely to be minor in nature. Within procedures, the specialized services that are more common under FFS include gynecological, cardiovascular, orthopedic and endoscopic procedures and renal dialysis.

Distribution of Capitated Services by Provider Specialty

The MHCC attempted to measure the distribution of capitated services and work RVUs by provider specialty. However, for the large majority of records in the capitated data base, provider specialty was coded as unknown. One possible explanation is that some of the payers (identified in Table 24) report data for a number of practitioner organizations with which they have sub-capitation arrangements. MHCC believes that these groups do not include physician specialty in their data. MHCC will address this issue with payers in future data collections.

Conclusions

This is the first year that an analysis of capitated data has been performed and the information presented in this chapter represents the initial analyses. As expected, some of the findings conflict with each other. Considerable work is needed to better understand what services are capitated and what information on capitated services is supplied to the Commission. In the coming months, the Commission will continue to evaluate the capitated data and work with HMOs to address the questions raised in this chapter. These issues include whether HMOs are more likely to reimburse specialty care using FFS rather than capitation, and possible age and health status differences in capitated and FFS populations.

Based on this preliminary analysis, several conclusions are clear. Within HMOs, the volume, distribution, and nature of capitated services differ in several ways from FFS services. The most obvious difference is that the number of services and work RVUs per recipient is higher for FFS arrangements than for capitated arrangements, regardless of recipient age or type of service. Differences also exist in how the services and work RVUs are distributed among the age categories. Both reimbursement arrangements tend to conform to a pattern of high (or highest) service utilization by infants which declines for young children, further declines for older children, and then increases with age. However, capitated service use per recipient is highest for infants, while in FFS arrangements, adults ages 55-64 and Medicare recipients average greater service use than infants. Service intensity (mean work RVU per service) is also higher for services reimbursed under FFS than under capitated arrangements, regardless of recipient age.

The gap between the services and RVUs per recipient provided under capitation compared to FFS grows with age (excluding infants). Increasing use of FFS services with age is consistent with the growing need for complex specialty care as individuals age and is consistent with Maryland HMOs' policies of reimbursing most specialists through FFS. Despite the expanded use of FFS with increased age, recipients of capitated services tend to be older than recipients of HMO FFS services in both private and Medicare HMOs. This result may be attributable to greater shares of older enrollees seeking care. However, it must be interpreted cautiously due to the current status of capitated information.

Comparisons of capitated and billed services by BETOS service category show that per recipient total services and work RVUs are higher among HMO FFS recipients for all categories, except for tests in private HMOs. For tests, about the same number of services and slightly more work RVUs are provided through capitation vs. FFS. This finding suggests that HMOs may use either capitation or FFS to cover a broad spectrum of tests. Additionally, although overall service intensity is higher in the FFS setting, the service intensities of private HMO childhood immunizations, imaging services and tests are greater in the capitated setting. However, comparisons of the BETOS subcategories indicate that billed services are somewhat more likely to be more specialized types of E&M services, procedures, tests, and imaging services. This lends support to the hypothesis that highly specialized care continues to be largely rendered through FFS arrangements rather than through capitation.

The Commission believes this chapter is an important first step in analyzing the scope of services provided under capitation and comparing the level and the complexity to services provided under more traditional payment methods. Analysis of these services will remain a high priority over the next several years. The Commission is especially interested in examining how HMO and non-HMO service utilization compares when capitated services are included in the HMO total. However, because the submission of data on primary care encounters is voluntary for HMOs, the Commission will have to determine if significant amounts of encounter data for primary care services are missing from the data before conducting such studies.